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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,477	03/05/2004	Roy A. Mangano	GEMS8081.202	2476

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EXAMINER	
NORMAN, MARC E	

ART UNIT	PAPER NUMBER
3744	

MAIL DATE	DELIVERY MODE
08/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/708,477	MANGANO ET AL.	
	Examiner	Art Unit	
	Marc E. Norman	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 22-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-20,22-25 and 37-40* is/are allowed.

6)☒ Claim(s) *1-5,7,9-11,15,16,26,28,31,32,35 and 36* is/are rejected.

7)☒ Claim(s) *6,8,12-14,27,29,30,33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *05 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartlett et al.

As per claims 10, 11, and 15, Bartlett et al. disclose an MR recondensor de-icing system comprising superconducting magnet in a bath of liquid coolant 13 in a sealed vessel 11; a recondensor 2; supply and delivery tubes (Figure 2); and resistive element heating element 31 configured to melt the iced particles from the recondensing system (see for example Abstract, lines 4-10; column 1, lines 45-48; column 4, lines 46-48; etc.), and a plurality of heat exchangers/fins 18, 20, 22, 24. The details of whether the supply and delivery tubes are configured to remove liquid or gas (see Applicant's arguments of 7/18/07) are simply a matter of functional language and intended use. As such, the tubes of Bartlett et al. are clearly *capable* of performing these functions. Accordingly, the structure of Bartlett et al. reads on the claimed structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al.

As stated in the previous Office Action, Bartlett et al. teach an MR recondensor de-icing system comprising a superconducting magnet in a bath of liquid coolant 13 in a sealed vessel 11; a recondensing system 2 configured to cool the magnet; heating element 31 configured to melt iced particles from the recondensing system wherein power is delivered to the heating element in order to melt the iced particles from the recondensing system (see for example Abstract, lines 4-10; column 1, lines 45-48; column 4, lines 46-48; etc.); the sealed vessel being pressure sealed (pressure in vessel controlled by transducer 23). Applicant has amended claim 1 to recite the heating element being configured to melt iced particles disposed within the sealed vessel. While Bartlett et al. do not specifically teach this feature, it does (as discussed above) generally teach

using a heating element to de-ice an MR system. Further, the use of heating elements for de-icing is generally old and well known in the art. To the extent that icing within the sealed vessel is a problem, it would have been obvious to one of ordinary skill in the art to also apply a heating element to de-ice that portion since this is simply a further application of known de-icing techniques that would have yielded predictable results to one of ordinary skill in the art.

Claims 2-5, 16, 26, 28, 31, 32, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al. in view of Emeric et al.

As per claims 2, 3, 16, 26, 28, 31, 32, 35, and 36, Bartlett et al. do not teach a vacuum supply capable of removing particles from the condensing unit. Emetic et al. disclose vacuum pump 78. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the vacuum pump of Emetic et al. to the system of Bartlett et al. for the purpose controlling the overall pressure of the system, since this is a common feature of MRI cooling systems. It is further noted that the energizing of heating element 31 of Bartlett et al. is performed independent of breaking a vacuum seal or of quenching the magnet. Applicant argues that the application of a vacuum pump would destroy the functioning of the system of Bartlett et al., however, this might only be the case when an extreme degree of vacuum pressure is applied. In Applicant's argument, they cite the fact that such systems are very sensitive to pressure condition as being a reason teaching away from combining the references. However, such sensitivity is in fact a potential motivation for the combination, since the vacuum pump allows one to more closely control the working ambient pressure of the system. Accordingly, the rejections of these claims are maintained.

Response to Arguments

Applicant's arguments filed 7/18/07 have been fully considered but they are not persuasive. Claims 1-5, 7, 9-11, 15, 16, 26, 28, 31, 32, 35, and 36 remain rejected for the reasons set forth above. Claims 17-25 are now allowable since Applicant incorporated the allowable subject matter of original claim 21.

Allowable Subject Matter

Claims 6, 8, 12-14, 27, 29, 30, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17-20, 22-25, and 37-40 are allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN

MARC NORMAN
PRIMARY EXAMINER